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Gottlieb, Rackman & Reiman, P.C.
270 Madison Avenue
New York, NY 10016-0601

EXAMINER	
SATKIEWICZ, THOMAS E	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/774,181	CHAMBERS ET AL.
	Examiner	Art Unit
	Thomas E. Satkiewicz	2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's amendment filed 06/13/2008 has been entered. Claims 1, 5, 8-9, 13, 16-17 and 24 have been amended. No Claims have been cancelled. Claims 26-30 have been added. Claims 1-30 are still pending in this application, with claims 1, 11, 17, 24, and 26 being Independent claims.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-4 and 6-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sabat Jr. (U.S. 6,415,132) (Sabat Jr.) and further in view of Grob et al. (U.S. 6,894,994) (Grob).

With regards to claim 1, Sabat Jr. teaches a wireless communication system (Fig #1, 10) the system comprising; a plurality of Remote Radio Units (RRUs) [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29], each including a transceiver module [Conventional Base Transceiver Stations (BTS) (Fig #1, 12-1…12-n)], each transceiver module (BTS (Fig #1, 12-1…12-n)) located at one of a plurality of cell sites (Exemplary Cell (Fig #1, 22-1…22-5)) in said wireless communication system (Fig #1, 10), each of said first transceiver modules (BTS (Fig #1, 12-1…12-n)) communicatively coupled to a hub (Hub Interface Converter (HIC) (Fig #1, 16)) via a first transport communication medium (Coaxial Cable (Column 5, Lines 50-54; Fig #1,

14-1…14-n)), said first transport communication medium (Appropriate Broadband Distributed Network, 18; Fig 1; Column 5, Line 57), said transceiver modules (BTS (Fig #1, 12-1…12-n)) being configured to receive RF radio signals (Column 5, Lines 36-42) over a wireless link (Mobile Subscriber Unit, Column 5, Line 63) for transmission over the first transport communication medium (Column 5, Line 63 – Column 6, Line 24); the hub ((HIC) (Fig #1, 16)) including at least one traffic consolidator unit (TCU) [(HIC) (Fig #1, 16)] transmitted by the transceiver systems (BTS; Fig #1, 12-1…12-n) to reproduce the RF radio signals transmitted over said wireless link (Column 5, Line 62- Column 6, Line 7); and a base transceiver station (BTS; Fig #1, 12-1…12-n) communicatively coupled to a second transceiver module (BTS; Fig #1, 12-1…12-n) and configured to process the reproduced RF radio signal to produce a corresponding T1/E1 signal (Column 5, Lines 50-54) on said second transceiver module; and a mobile switching office (MSO) [Cable Microcell Integrator (CMI) Fig #1, 20-1...20-n)] in communication with the hub (HIC Fig #1; 16) via a second transport communication medium (Appropriate Broadband Distributed Network, 18; Fig 1; Column 5, Line 57) and configured to receive and process the T1/E1 signal (Column 5, Lines 50-54).

However, Sabat Jr. fails to teach transporting information in form of packetized bit streams and process the received RF signal to produce packetized demodulated bit streams configured to receive the packetized demodulated bit stream via the first transport communication medium and process the received digital packetized demodulated bit streams.

However, Grob does teach transporting information in form of packetized bit streams [Packet Data Serving Node (PDSN), 150; Fig 1; Column 5, Lines 3-4] and process the received RF signal to produce packetized demodulated bit streams [Packet Data Serving Node (PDSN), 150; Fig 1; Column 5, Lines 3-4] configured to receive the packetized demodulated bit stream [Packet Data Serving Node (PDSN), 150; Fig 1; Column 5, Lines 3-4] via the first transport communication medium and process the received digital packetized demodulated bit streams [Packet Data Serving Node (PDSN), 150; Fig 1; Column 5, Lines 3-4].

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply a known technique to a known device (Packetized Bit Streams, Packetized Demodulated Bit Streams or Digital Packetized Demodulated Bit Streams sent over T-1 Circuit) ready for improvement to yield predictable results (See KSR – MPEP 2143). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the use of sending over a T-1 Circuit a Packetized Bit Streams, Packetized Demodulated Bit Streams, or Digital Packetized Demodulated Bit Streams for Sabat Jr. Wireless Communication Network.

With regards to claim 2, Sabat jr. teaches a wireless communication system, wherein the first and second transport communication mediums (Appropriate Broadband Distributed Network, 18; Fig 1; Column 5, Line 57) are Ethernet over copper traffic flow (Column 5, Lines 55-61).

With regards to claim 3, Sabat Jr. teaches a wireless communication system, wherein the first and second transport communication medium (Appropriate Broadband

Distributed Network, 18; Fig 1; Column 5, Line 57) are optical fiber rings (Optical Fiber Transmission Media; Column 1, Lines 47-48).

With regards to claim 4, Sabat Jr. teaches wireless communication system, wherein the optical fiber ring (Optical Fiber Transmission Media; Column 1, Lines 47-48) is a SONET/SDH ring (Column 5, Lines 55-61).

With regards to claim 6, Sabat Jr. teaches wireless communication system, wherein the optical fiber ring (Optical Fiber Transmission Media; Column 1, Lines 47-48) is a 10 Gigabit Ethernet ring (Column 5, Line 55-61).

With regards to claim 7, Sabat Jr. teaches wireless communication system, further comprising a plurality of remote cell site [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29] antennas (Antenna Elements, 26-1 – 26-3; Fig 1; Column 5, Line 37) disposed at said plurality of cell sites [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29], said antennas (Antenna Elements, 26-1 – 26-3; Fig 1; Column 5, Line 37) coupled to said transceiver system [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29] and configured to transmit said RF radio signal (Radio Signals; Column 6, Line 14) from mobile users (Subscriber Unit, 28-2; Fig 1; Column 6, Line 16) over said wireless link (120 Degree Sector, 24-1; Fig 1; Column 6, Line 10) to said transceiver systems [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29].

However, Sabat Jr. fails to teach a Packet Transceiver Systems.

However, Grob teaches a Packet Transceiver Systems [Packet Data Serving Node (PDSN), 150; Fig 1; Column 5, Lines 3-4].

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply a known technique to a known device (Packet Transceiver System) ready for improvement to yield predictable results (See KSR – MPEP 2143). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the use of Packet Transceiver System transmit data over Sabat Jr. Wireless Communication Network.

With regards to claim 8, Sabat Jr. teaches wireless communication system, wherein the cell site antennas (Antenna Elements, 26-1 thru 26-3; Fig 1; Column 5, Line 37) are equipped with smart technology (Blossoming the Capacity; Column 9, Line 67).

With regards to claim 9, Sabat Jr. teaches wireless communication system, wherein the cell site antennas (Antenna Elements, 26-1 – 26-3; Fig 1; Column 5, Line 37) are configured to detect changes in RF capacity in the network (Blossoming the Capacity; Column 9, Line 67).

With regards to claim 10, Sabat Jr. teaches wireless communication system, wherein each transceiver system [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29] further comprises; an RF front end module (Three Antenna Elements, 26-1…26-3; Fig 1; Column 5, Line 37) configured to receive an RF signal (Primary Reception Antenna, 26-2; Fig 1; Column 5, Line 40), down-convert the received RF signal (RF Downconverter; Fig #3, 40-1...40-n; Column 7, Lines 34-35) and forward the down-converted RF signal to an A/D module (RF Combiner, 42; Fig 3; Column 7, Lines 35-36); a programmable antenna card (PAC) (Translates; Column 7, Line 41); a plurality of Input/Output modules (Optical Detector, 44; Fig 3; Column 7, Line

37); a control and switching module configured to manage operation within the first transceiver unit [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29] in accordance with bandwidth (Changes in Traffic Demand; Column 3, Line 19) requirements for the respective channels (Second RF Channel; Column 3, Line 20).

Sabat Jr. discloses the claimed invention above, but fails to specifically disclose an integrated test and performance module configured to collect network performance data to facilitate network installation and troubleshooting of claim 10.

However, Sabat Jr. does disclose, "Even at full capacity, there is a benefit to centrally locating the BTS's 12 in order to facilitate access for maintenance and logistics." (Column 7, Lines 1-3). Maintenance and logistics are terms used to connote the work on a network to install, rework, testing, setup, monitoring, and troubleshooting.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made that Sabat Jr. saw a need for testing and monitoring the network, but didn't include testing and monitoring the network as in claim 10, because testing and monitoring a network is standard procedure.

Sabat Jr. discloses the claimed invention above, but fails to specifically disclose a programmable antenna card (PAC) configured to demodulate an RF signal to extract a digital bit stream and a gigabit Ethernet card configured to groom data traffic channels and control channels into GigE/RPR traffic flows.

However, Grob discloses a programmable antenna card (PAC) (Access Terminal, 110; Fig 1; Column 5, Line 7) configured to demodulate an RF signal (Radio Modem; Column 5, Lines 7) to extract a digital bit stream (Data Interface; Column 5, Line 7) and

a gigabit Ethernet card (Ethernet or Serial Interface; Column 3, Lines 11-12) configured to groom data traffic channels and control channels [Modem Pool Transceiver (MPT), 126A and B; Fig 2; Column 16] into GigE/RPR traffic flows (t1/E1, Ethernet, or some other High-Speed Links; Column 5, Line 52).

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply a known technique to a known device (a gigabit Ethernet Card configured to groom data traffic channel and control channels into GigE/RPR traffic flows in accordance with bandwidth requirements for respective channels) ready for improvement to yield predictable results (See KSR – MPEP 2143). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the use of a programmable antenna card (PAC) configured to demodulate a RF signal to extract a digital bit stream and a gigabit Ethernet Card configured to groom data traffic channel and control channels into GigE/RPR traffic flows in accordance with bandwidth requirements for respective channels for Sabat Jr. Wireless Communication Network.

With regards to claim 11, Sabat Jr. teaches wireless communication system, wherein the traffic consolidator unit [Hub Interface Converter (HIIC), 16; Fig 1; Column 5, Line 26-27] comprises; a control shelf comprising; a system control module (Optical Detector, 50; Fig 4; column 8, Line 10); an independent switching fabric and a plurality of input/output (I/O) cards.

Sabat Jr. discloses the claimed invention above, but fails to specifically disclose an integrated test and performance monitoring card and a bearer shelf configured to

perform bearer channel processing, switching, testing, performance monitoring and transport.

However, Sabat Jr. does disclose, "Even at full capacity, there is a benefit to centrally locating the BTS's 12 in order to facilitate access for maintenance and logistics." (Column 7, Lines 1-3). Maintenance and logistics are terms used to connote the work on a network to install, rework, testing, setup, monitoring, and troubleshooting.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made that Sabat Jr. saw a need for testing and monitoring the network, but didn't include testing and monitoring the network as in claim 1, because testing and monitoring a network is standard procedure.

With regards to Claim 12, Sabat Jr. discloses the claimed invention above, but fails to specifically disclose wherein the traffic consolidator unit further comprises an application server shelf configured to support a plurality of customized software applications of claim 11.

However, Sabat Jr. does disclose, "Even at full capacity, there is a benefit to centrally locating the BTS's 12 in order to facilitate access for maintenance and logistics." (Column 7, Lines 1-3). Maintenance and logistics are terms used to connote the work on a network to install, rework, testing, setup, monitoring, and troubleshooting.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made that Sabat Jr. saw a need for testing and monitoring the network, but did not discuss testing and monitoring the network as in

recited in claim 12 because testing and monitoring a network is an old, standard and well known procedure.

With regards to Claim 13, Sabat Jr. discloses the claimed invention above, but fails to specifically disclose wherein the customized software applications comprise said continuous network optimization (CNO) application for continuously monitoring network performance indicators and automatically provisioning sufficient bandwidth in response; a testing/performance monitoring application and a network rerouting application for facilitating near/far-ending testing, setup, installation, and troubleshooting; and a networking rerouting application to automate spectrum and network optimization processes of claim 12.

However, Sabat Jr. does disclose, "Even at full capacity, there is a benefit to centrally locating the BTS's 12 in order to facilitate access for maintenance and logistics." (Column 7, Lines 1-3). Maintenance and logistics are terms used to connote the work on a network to install, rework, testing, setup, monitoring, and troubleshooting.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made that Sabat Jr. saw a need for testing and monitoring the network, but did not discuss testing and monitoring the network as recited in claim 13 because testing and monitoring a network is old, standard and well known procedure.

With regards to Claim 14, Sabat Jr. discloses the claimed invention above, but fails to specifically disclose wherein the network performance indicators are derived

from the application processor and the integrated test and performance monitoring card of claim 13.

However, Sabat Jr. does disclose, "Even at full capacity, there is a benefit to centrally locating the BTS's 12 in order to facilitate access for maintenance and logistics." (Column 7, Lines 1-3). Maintenance and logistics are terms used to connote the work on a network to install, rework, testing, setup, monitoring, and troubleshooting.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made that Sabat Jr. saw a need for testing and monitoring the network, but did not discuss testing and monitoring the network as recited in claim 14 because testing and monitoring a network is old, standard and well known procedure.

With regards to Claim 15, Grob a system, wherein a local version the CNO application (Access Point, 20; fig 1; Column 6, Line 52) is resident in each of said packet transceiver system [Packet Data Serving Node (PDSN), 150; Fig 1; Column 5, Lines 3-4] and traffic consolidator units (Access Point, 120; Fig 1; Column 4, Line 58) in the system of claim 13.

With regards to claim 16, Grob teaches wherein the CNO application (Access Point, 20; fig 1; Column 6,Line 52) is comprised of said three sub-processes (Simple Network Management Protocol (SNMP); Column 6, Lines 43-44); an RF capacity (Performance Management; Column 6, Line 48) detection (RFCD) sub-process configured to determine if an increase/decrease (Communicate Statistics and Status Information; Column 6, Line 59) in RF capacity (Performance Management; Column 6,

Line 48) required in the network (Elements; Column 6, Line 58); a network capacity detection and adjustment (NCDA) sub-process configured to utilize the RF capacity status information obtained from the RFCD sub-process to determine if an increase/decrease (Communicate Statistics and Status Information; Column 6, Line 59) in network-side capacity is required in the network (Elements; Column 6, Line 58); a baseband processing distribution and adjustment (BPDA) sub-process configured to utilize the RF capacity (Performance Management; Column 6, Line 48) and network status information (Communicate Statistics and Status Information; Column 6, Line 59) obtained from the RFCD and NCDA processes (Simple Network Management Protocol (SNMP); Column 6, Lines 43-44) to determine what level of baseband resources are required (Make Changes in the Way these Nodes Handle Network Traffic; Column 6, Lines 61-61).

With regards to claim 17, Sabat Jr. teaches a method radio frequency (RF) signals (Radio Frequency Transmission; Column 5, Line 52) between antennas (Antenna Elements, 26-1 – 26-3; Fig 1; Column 5, Line 37) and processing elements in a wireless communication network, the comprising; receiving a RF (Radio Frequency) signal (Radio Frequency Transmission; Column 5, Line 52) at a transceiver system [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29] over a wireless link via an antenna (Antenna Elements, 26-1 – 26-3; Fig 1; Column 5, Line 37), said first transceiver [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29] located at one of a plurality of remote cell sites (Exemplary Cell, 22-1; Fig 1;Column 5, Line 30); processing the received RF signal (Radio Frequency Transmission; Column 5,

Line 52) by a continuous network optimization (CNO) [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29] at said transceiver system [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29] and over a first transport communication medium (Appropriate Broadband Distribution Network, 18; Fig 1; Column 5, Lines 57); the first transport communication medium (Appropriate Broadband Distribution Network, 18; Fig 1; Column 5, Lines 57) to a traffic consolidator unit located at a hub (HIC Fig #1; 16 in the network (Column 6, Lines 43-50); at the traffic consolidator unit, received at the transceiver system [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29]; providing the reproduced RF signal as an input to a base transceiver station (BTS) [Base Transceiver Station (BTS), 12-1…12-n; Fig 1; Column 2, Line 60] located at said hub (Hub Interface Converter, 16; Fig 1; Column 5, Lines 27-28); processing the reproduced RF signal at the BTS [Base Transceiver Station (BTS), 12-1…12-n; Fig 1; Column 2, Line 60] to produce a T1/E1 signal (Carrier Frequency; Column 7, Line 42); providing the T!/E1 signal (Carrier Frequency; Column 7, Line 42) as an input to the traffic consolidator unit [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29]; the T1/E1 signal (Carrier Frequency; Column 7, Line 42) at the traffic consolidator unit [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29] to produce a T1/E1 signal (Carrier Frequency; Column 7, Line 42) transmitting the T1/E1 signal (Carrier Frequency; Column 7, Line 42) over a second transport communication medium (Appropriate Broadband Distributed Network, 18; Fig 1; Column 5, Line 57) to a mobile switching office (MSO); processing the received T1/E1 signal (Carrier Frequency;

Column 7, Line 42) to produce a channelized circuit-switched T1/E1 signal (Carrier Frequency; Column 7, Line 42).

However, Sabat Jr. fails to teach transporting digital bit streams and to produce a packetized demodulated bit stream serial transmission of the bit stream over a first transport communication medium; transmitting the bit stream over a first transport communication medium to a traffic consolidator unit; processing the received bit stream at the traffic consolidator unit to re-produce the RF signal received at the packet transceiver system; and upon receipt of transmitted bit stream at the MSO, and a packetized T!/E1 signal.

However, Grob teaches transporting digital bit streams (Packet Data Transmission; Column 5, Line 43) and to produce a packetized demodulated bit stream (Packet Data Serving Node, 150; Fig 1; Column 5, Line 4) serial transmission (Serial Interface; Column 3, Lines 11-12) of the bit stream over a first transport communication medium (High-Speed Communication Link; Column 4, Lines 59-60); transmitting (IP over T1/E1; Column 111, Line 62) the bit stream a first transport communication medium (High-Speed Communication Link; Column 4, Lines 59-60) to a traffic consolidator unit (Access Point, 120; Fig 1; Column 4, Line 58); processing the received bit stream at the traffic consolidator unit (Access Point, 120; Fig 1; Column 4, Line 58) to re-produce the RF signal (Radio Link; Column 7, Line 15) received at the packet transceiver system (Access Point, 120; Fig 1; Column 4, Line 58); and upon receipt of transmitted bit stream at the MSO [Mobile Switching Center (MSC), 540; Fig 5; Column

9, Line 58], and a packetized T1/E1 signal (T1/E1 Ethernet; Fig 10A and 10B; Column 14, Line 42).

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply a known technique to a known device (Transporting Digital bit Streams to produce a Packetized Demodulated Bit Streams supporting Serial Transmission of the Bit Stream and upon receipt of transmitted bit at the MSO) ready for improvement to yield predictable results (See KSR – MPEP 2143). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the use of Transporting Digital bit Streams to produce a Packetized Demodulated Bit Streams supporting Serial Transmission of the Bit Stream and upon receipt of transmitted bit at the MSO for Sabat Jr. Wireless Communication Network.

With regards to claim 18, Sabat Jr. teaches a method, wherein the RF signal (Radio Frequency Transmission; Column 5, Line 52) is transmitted from a mobile station (Mobile Unit, 28-1; Fig 1; Column 10, Line 22) over the air to the first transceiver unit (CMI, 20-2-2; Fig 1; Column 10, Line 19) via fixed RF antenna device (Antenna Elements, 26-1 – 26-3; Fig 1; Column 5, Line 37).

With regards to claim 19, Sabat Jr. teaches a method, wherein the first and second transport communication medium (Appropriate Broadband Distributed Network, 18; Fig 1; Column 5, Line 57) are one of a fiber optic link (Optical Fiber Transmission Media; Column 1, Lines 47-48) and a high-speed copper pair(s) (Other Available Broadband Distribution Network; Column 2, Lines 58-59).

With regards to claim 20, Sabat Jr. teaches a method, wherein the act of processing the received RF signal (Radio Frequency Transmission; Column 5, Line 52) at the packet transceiver system [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29], further comprises the acts of demodulating (Modulated; Column 6, Line 49) the RF signal (Radio Frequency Transmission; Column 5, Line 52); applying said policies to automatically adjust (Blossoming; Column 9, Line 67) bandwidth utilization parameters and baseband processing capacity based on real-time network conditions (Column 3, Lines 18-30).

However, Sabat Jr. fails to teach the extraction of bit information; constructing said packetized demodulated bit stream in accordance with a digital packet transport protocol; prioritizing said packetized demodulated bit stream in accordance with pre-determined policies; optionally routing said prioritized and packetized demodulated bit stream in accordance with applied policies.

However, Grob teaches the extraction of bit information (Radio Layer Protocol; Column 13, Line 33); constructing said packetized demodulated bit stream (Receive Byte; Column 13, Line 43) in accordance with a digital packet transport protocol (Packet Data Service Node, 530; Fig 5; Column 9, Line 57); prioritizing said packetized demodulated bit stream (Receive Byte; Column 13, Line 43) in accordance with pre-determined policies; optionally routing (Router, 130; Fig 1; Column 5) said prioritized and packetized demodulated bit stream (Receive Byte; Column 13, Line 43) in accordance with applied policies (Modem Block, 1930; Fig 19; Column 25, Line 4).

With regards to claim 21, Grob teaches a method, further comprising inserting transit priority coding based on said prioritization (Modem Block, 1930; Fig 19; Column 25, Line 4).

With regards to Claim 22, Sabat Jr. teaches the claimed invention above, but fails to specifically disclose policies created for scheduled and unscheduled localized events and for loss of network resources of claim 20.

Policies to handle scheduled or unscheduled localized events, loss of network, and continuous network optimization are old, well known and common business practice.

Therefore it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have policies to handle scheduled or unscheduled localized events, loss of network, and continuous network optimization.

With regards to Claim 23, Sabat Jr. teaches said policies are managed (Manage the Transport; Column 9, Line 8) by a policy management module configured to receive network status information (Traffic Handling Capacity; Column 7, Lines 19-20) from a CNO [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29] application and responsively issue requests for network changes to the CNO [Cable Microcell Integrators (CMI), 20-1 20-c; Fig 1; Column 5, Lines 28-29] application.

However, Sabat Jr. fails to teach a policy management module.

However, Sabat Jr. is managing the network status information, because Sabat Jr. discloses that Cable Microcell Integrators 20 can be used to manage the transport of signals.

Therefore it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have policies managed by a policy management program configured to receive network status information from a CNO application and responsively issue request for network changes to the CNO application.

With regards to claim 24, Sabat Jr. teaches a method, for automatically adjusting network bandwidth (Blossoming; Column 9, Line 67) in response to a change (Demand Increases; Column 10, Line 11) in RF activity (RF Coverage Area; column 3, Line 47) in the network, for automatically provisioning sufficient bandwidth (Blossoming; Column 9, Line 67) and determining what level of baseband resources are required (Blossoming; Column 9, Line 67); determining if an increase/decrease in RF activity (Blossoming; Column 9, Line 67) has occurred based on said monitored parameters; and said CNO automatically adjusting the bandwidth (Blossoming; Column 9, Line 67) between one of the following sites, Cellsite, and hub, Hub to MSO, hub to hub or MSO to MSO (Column 9, Line 66-Column 11, Line 14).

However, Sabat Jr. fails to teach a the method comprising; monitoring a plurality of network parameters related to RF capacity using a continuous network optimization (CNO) application that includes three sub-processes that continuously monitors network performance indicators.

However, Grob teaches teach a the method comprising; monitoring (Monitor; Column 6, Line 64) a plurality of network parameters (Elements; Column 6, Line 58) related to RF capacity (Network Traffic; Column 6, Line 63) using a continuous network optimization (CNO) (OAM&P server, 142D; Fig 1; Column 6, Line 63) application that

includes three sub-processes that continuously monitors network performance indicators (Simple Network Management Protocol (SNMP); Column 6, Lines 43-44).

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply a known technique to a known device [monitoring a plurality of network parameters using a continuous network optimization (CNO) application that includes three sub-processes that continuously monitors network performance indicators] ready for improvement to yield predictable results (See KSR – MPEP 2143). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the use of monitoring a plurality of network parameters using a continuous network optimization (CNO) application that includes three sub-processes that continuously monitors network performance indicators for Sabat Jr. Wireless Communication Network.

With regards to claim 25, Sabat Jr. teaches a method, wherein the plurality of network parameters (Maintenance and Logistics; Column 7, Lines 2-3) comprise; a first parameter for monitoring an RF signal (First Frequency, f1; Column 10, Line 7), a second parameter for monitoring an RF front end and/or antenna (Antenna Elements, 26-1 – 26-3; Fig 1; Column 5, Line 37) presence, a third parameter for monitoring all active carriers (Maintenance and Logistics; Column 7, Lines 2-3), a fourth parameter for monitoring (Maintenance and Logistics; Column 7, Lines 2-3) active/idle network channels, fifth parameter for monitoring a network congestion level (Blossoming the Capacity; Column 9, Line 67) and a sixth parameter for monitoring event triggered alarms (Maintenance and Logistics; Column 7, Lines 2-3).

However, Sabat Jr. fails to teach a conversion to a digital signal.

However, Grob teaches a conversion to a digital signal [Digital Signal Processors (DSP); Column 28, Line 40].

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply a known technique to a known device [a conversion to a digital signal] ready for improvement to yield predictable results (See KSR – MPEP 2143). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the use of a conversion to a digital signal for Sabat Jr. Wireless Communication Network.

With regards to Claim 26, Sabat Jr. teaches a wireless communication system comprising; at least one transport communication medium (Appropriate Broadband Distributed Network, 18; Fig 1; Column 5, Line 57) adapted to generate bidirectional digital information in (Forward Link Direction; Column 6, Line 52 and Reverse Link; Column 6, Line 59) form of streams (Distribute Signal; Column 6, Line 67) arranged in accordance with an IP protocol; a plurality of cells (Cell 22-1 – 5; Fig 1; Column 5, Line 44), each cell (Cell, 22-1 – 22-5; Fig 1; Column 5, Line 44) including a RF antenna (Antenna Elements, 26-1 – 26-3; Fig 1; Column 5, Line 37) in wireless communication with a plurality of mobile devices (Mobile Unit, 28-1 – 28-7; Fig 6; column 10, Line 18), a transceiver system connected to said transport medium (Appropriate Broadband Distributed Network, 18; Fig 1; Column 5, Line 57), said transceiver system exchanging RF signals with said antenna (Antenna Elements, 26-1 – 26-3; Fig 1; Column 5, Line 37) .and exchanging corresponding streams with said one transport medium

(Appropriate Broadband Distributed Network, 18; Fig 1; Column 5, Line 57); and hub (HIC Fig #1; 16) coupled to said transport medium (Appropriate Broadband Distributed Network, 18; Fig 1; Column 5, Line 57), said hub [(HIC) (Fig #1, 16)] receiving streams from said transceiver systems, converting said stream into converted signals and transmitting said converted signals to other devices for processing.

However, Sabat Jr. fails to teach bidirectional digital information in form of packetized bit streams arranged in accordance with an IP protocol.

However, Grob teaches digital information (Packet Data Serving Node, 150; Fig 1; Column 5, Lines 3-4) in form of packetized bit streams (Packet Data Serving Node, 150; Column 5, Lines 3-4) arranged in accordance with an IP protocol (IP Network, 134; Fig 1; Column 5, Line 53).

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply a known technique to a known device [digital information in the form of packetized bit streams arranged in accordance with an IP protocol] ready for improvement to yield predictable results (See KSR – MPEP 2143). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the use of digital information in the form of packetized bit streams arranged in accordance with an IP protocol for Sabat Jr. Wireless Communication Network.

With regards to Claim 27, Sabat Jr. teaches a system wherein said hub [(HIC) (Fig #1, 16)] includes at least a base station [Conventional Base Transceiver Stations (BTS) (Fig #1, 12-1…12-n)] adapted to handle RF signals (RF Signals; column 3. Line 2)

wherein said hub [(HIC) (Fig #1, 16)] into RF signals (RF Signals; column 3. Line 2) for said base station [Conventional Base Transceiver Stations (BTS) (Fig #1, 12-1…12-n)].

However, Sabat Jr. fails to teach a hub which translates said packetized bit streams into RF signals for said base station.

However, Grob teaches a hub (Modem Pool Transceiver, 126A; Fig 3; Column 2, Line 20) which translates said packetized bit streams (Data Packets; Column 2, Line 22) into RF signals (Modulated Signal; Column 2, Line 23) for said base station.

With regards to Claim 28, Sabat Jr. teaches a system wherein said transport communication media (Appropriate Broadband Distributed Network, 18; Fig 1; Column 5, Line 57) is one of Ethernet copper wire (Other Types of Physical Media; Column 5, Lines 59-60) and an Ethernet optical fiber (Optical Fiber Transmission Media; Column 1, Lines 47-48).

With regards to Claim 29, Grob teaches a system wherein each transceiver (Modem Pool Transceivers, 126A; Fig 2; Column 7, Line 53) system includes a signal conditioner (Configuration and Resource; Column 8, Line 18) for conditioning the packetized bit streams (Data Packets; Column 2, Line 22) based on Quality of Service (Quality of the Communication Link; Column 23, Lines 63-64) rules.

With regards to Claim 30, Sabat Jr. teaches a system wherein said transport communication media (Appropriate Broadband Distributed Network, 18; Fig 1; Column 5, Line 57) forms a communication ring connected to each of said transceivers, with the packaged data streams traveling through the ring being combined from signals from each of the cells (Cell, 22-1 – 22-5; Fig 1; Column 5, Line 44).

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sabat Jr. (U.S. 6,414,132) as applied to claim 13 above, in view of Grob et al. (US 6,894,994) (Grob), and further in view of Mircosoft Computer Dictionary 5TH Edition, Page , 1990.

With regards to claim 5, Sabat Jr. teaches wireless communication system, wherein the optical fiber ring (Optical Fiber Transmission Media; Column 1, Lines 47-48) is a Gigabit Ethernet Resilient Packet Ring (Optical Fiber Based Network; Column 5, Lines 58-59).

However, Sabat Jr. fails to teach Quality of Service (QoS) priorities.

However, Microsoft Computer Dictionary defines Quality of Service (QoS) as the level of data transfer rate.

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply a known technique to a known device (Quality of Service) ready for improvement to yield predictable results (See KSR – MPEP 2143). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the use of Quality of Service priorities for Sabat Jr. Wireless Communication Network.

Response to Arguments

4. Applicant's arguments filed 06/13/2008 have been fully considered but they are not persuasive. Applicant states, “Instead of a standard base station, each cell is provided with a packet transceiver system. This packet transceiver system receives the RF signals from the antenna and convert them into packaged data streams using an IP protocol. The system further includes a package transport medium. The medium may

be implemented by a pair of copper wires or optical fiber set up to form a communication ring. The ring connects the packet transceiver systems to a single hub. At the hub, the data streams are separated into signals corresponding to each of the cells for further processing. The hub may include one or more standard base stations in which case, the signals from packets are converted into RF signals for handling these base stations." The Examiner respectfully disagrees, because a standard base station has a router which converts the RF signal from the antenna into packet data streams with IP protocol and routes the data over a T-1 Line and to the correct work station on the network. The medium may be copper wires (Twisted Pair or Coax) or Optical Fiber.

Applicant states, “a novel feature of the present invention is that the communication between cells and a hub occurs over a special transport media using IP protocol." Examiner respectfully disagrees because sending data over copper, glass or radio frequency is way that the one of ordinary skill in the art would transport data. Is the special transport media the same media as in dependent Claim 2, which recites “the first and second transport communication mediums are Ethernet over copper traffic flow”? Ethernet over copper is an old and very common way of transporting data. Also, is the special transport media the same media as in dependent Claim 3 which recites “the first and second transport communication mediums are optical fiber rings”? The installation of optical fiber in a ring is a very common practice by any one of ordinary skill in the art. Also applicant states, "In Sabat standard T1 protocol is used." Standard T1 protocol allows the use of IP protocol in sending data through a T1 Circuit.

Applicant states, “The information traffic on the media is monitored and if traffic from one cell reaches a high threshold, the packets are adjusted to provide more capacity for that call. However, all the signals are still transmitted over a common transport media, not separate T1 lines.” Sabat does not have to use separate T1 lines, because Sabat states in Column 8 on Lines 1-4, “a given RF signal of 1.25MHZ on a given carrier frequency f1 may actually contain multiple traffic channels implemented with different codes c1, c2, …cq or even code phases p1,p2, …pz.”

Applicant states, “a mobile station (MS) determines whether an RF network capacity requires adjustment at a remote radio unit (RRU) with an appropriate packet transceiver system. Once the RF domain status of low, average or high is determined, the status of the RF domain is used as input parameters for the continuous network optimization (CNO) module. The previous RF domain status of low, average or high are then translated into specific bandwidth increments that are invoked automatically using preset policies.” Sabat does the same thing, but Sabat call this adjustment the Blossoming (Column 10, Line 12) or Wilt (Column 10, Line 43) of the Bandwidth.

Applicant further states, ”Sabat Jr. is only concerned with the method and system of soft handoff between adjacent cell sites in order for a user to operate in the same radio channel as other adjacent cells." Examiner respectfully disagrees, because Sabat Jr. states,” for a low capacity or initial system build out stage (A), the radio carrier signal f1 may be identical for each CMI 20-1, 20-2,…20-c. In a later capacity enhanced configuration (B), the sectors 24-1 and 24-2 may still constitute a simulcast group in which they are radiating with the same carrier signal f1. However, other sectors such as

24-c-1 and 24-c-2 may be assigned a different carrier signal f2 to form a second simulcast group." (Column 7, Lines 8-15) Sabat Jr. further states, “a second capacity increased configuration (C) may make use of the same carrier frequency as carrier f1 with a different pseudorandom code c1 and c2 for the different simulcast groups. In a third enhanced scenario (D), the same frequency f1 and code c1 but a different code phases p1 and p2 may be assigned for the two simulcast groups.” (Column 7, Lines 24-30)

With regards to Claim 13, Applicant states, “the maintenance and logistics of a central BTS12 as disclosed in Sabat Jr. is to more efficiently access the physical device as opposed to continuously monitoring network performance indicators for automatically provisioning sufficient bandwidth.” Sabat Jr. states, “there is a benefit to centrally locating the BTS 12 in order to facilitate access for maintenance and logistics." (Column 7, Lines 1-3). The common definition of facilitate is to make easier. The common definition of access as applied in telecommunications is the process of signing onto a network. The common definition of maintenance in telecommunications is any activity – such as tests, measurements, replacements, adjustments and repairs, intended to retain or restore a functional unit in or to a specified state in which the unit can perform it required functions. The definition of logistics is the management of the flow of information. So the Examiner respectfully disagrees, because Sabat Jr. meaning to the statement, “there is a benefit to centrally locating the BTS 12 in order to facilitate access for maintenance and logistics" is to make it easier to sign onto a network to perform the

activities as testing, measurements, replacements, adjustment, repairs and management of the flow of information intended to retain or restore a functional unit.

With regards to Claim 16, Applicant states, “portions relied upon by Examiner in Greenwood fail to teach or suggest a CNO that includes a three sub-process for automatically determining what level of baseband resources are required.” The Examiner respectfully disagrees. While the portion (Column 7, Lines 29-62) relied in the Office Action may not state a three sub-process for automatically determining what level of baseband resources are required, it describes the working of all components for control of bandwidth. Examiner should have also included (Column 8, Lines 25-34), "reconfiguration of the distribution network such as when a higher capacity system is desired, requires only reconfiguration of the filters 66 and 74. This may be carried out manually, by either implementing such filters as a tunable circuit that may be adjusted by technician in the field with potentiometers or the like or in a more sophisticated system, it may programmable such that they may be controlled by control signals provided over the optic fiber 18 and various dedicated control channels within the associated available bandwidth of operations.”

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas E. Satkiewicz whose telephone number is (571) 270-1948. The examiner can normally be reached on Monday to Thursday 6:30AM to 3:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar can be reached on (571) 272-7488. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas E Satkiewicz/
Examiner, Art Unit 2614

/Ahmad F. Matar/
Supervisory Patent Examiner, Art Unit 2614